PAUL, WEISS, RIFKIND, WHARTON & GARRISON

1285 AVENUE OF THE AMERICAS NEW YORK, NEW YORK 10019-6064

TELEPHONE (212) 373-3000
FACSIMILE (212) 757-3990
TELEX WUI 666-643

1615 L STREET, NW
WASHINGTON, DC 20036-5694
TELEPHONE (202) 223-7300
FACSIMILE (202) 223-7420

199, BOULEVARD SAINT GERMAIN
75007 PARIS, FRANCE
TELEPHONE (33-1) 45.49.33.85
FACSIMILE (33-1) 42.22.84.36

AKASAKA TWIN TOWER
17-22, AKASAKA 2-CHOME
MINATO-KU, TOKYO 107, JAPAN
TELEPHONE (81-3) 3505-0281
FACSIMILE (81-3) 3505-4540

26/28 MOUNT ROW
LONDON W1Y 5DA, ENGLAND
TELEPHONE 071 495 2863
FACSIMILE 071 499 2562

LLOYD K. GARRISON (1946-1991)
RANDOLPH E. PAUL (1946-1956)
LOUIS S. WEISS (1927-1950)
JOHN F. WHARTON (1927-1977)

JEROME ALAN COHEN
ADRIAN W. DEWIND
JOSEPH S. ISEMAN
JAMES B. LEWIS
PAUL J. NEWLON
MORDECAI ROCHLIN
HOWARD A. SEITZ
SAMUEL J. SILVERMAN
JOHN C. TAYLOR, 3RD
NORMAN ZELENKO
COUNSEL

RICHARD DEHÉ**
EUROPEAN COUNSEL

WRITER'S DIRECT DIAL NUMBER

(212) 373-3351

45930

June 29, 1992

19

F. Henry Habicht, II, Esq.
Deputy Administrator (A-101)
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460

Re: Torch Lake NPL Site

Dear Mr. Habicht:

We are attorneys appearing on behalf of Universal Oil Products, Inc. with respect to Operable Unit I of the Torch Lake National Priorities List Site. We write to bring to your attention certain serious violations (both substantive and procedural) of the Comprehensive Environmental Response Compensation and Liability Act, 42 U.S.C. § 9601 et seq. ("CERCLA") by EPA Region 5 in issuing a proposed remedial plan for the Torch Lake site.

The Torch Lake site is located in Michigan's Upper Peninsula in an area that was once the most productive copper producing region in the United States. Mining and smelting operations were commenced in this region before the

American Civil War, grew dramatically until the 1930s, and diminished thereafter to a point of cessation in the 1960s.

Operable Units I and III of the Torch Lake site are respectively the western shore of Torch Lake itself and twelve distant locations in the Upper Peninsula. The material of concern at these locations is predominantly stampsands generated during the mining process, although there are a few locations where slag from smelting operations is located as well.

After four years of investigation, in May 1992, EPA issued a remedial investigation/feasibility study and Administrative Record for Operable Units I and III which demonstrated the following:

- *Even using the very conservative method of assessing cancer risks that EPA employs, there is no meaningful cancer risk arising from conditions at the Torch Lake site. EPA acknowledges that these risks are not sufficient to justify any action.*

- *Residents in the Torch Lake area do not display any adverse health effects related to the area's environment.*

- *Torch Lake is a healthy and productive fishery and is safe in terms of water quality for all recreational uses. MDNR studies of the Lake's fish population show it to be among the cleanest of all inland lakes evaluated in Michigan. A study of 455 fish in 1988 showed no abnormalities at all.*

- *Stampsands do not have any significant potential for leaching copper and other metals to groundwater. Slag is immobile and stable. Neither*

material is adversely affecting water quality in the Lake.

- *Studies of eagles and gulls in the area show that the birds have suffered no adverse impact on wildlife.*

- *There is no significant transportation by either rain or wind of materials either from the stampsands areas or the slag areas into the Lake.*

See Exhibits 2 and 3 attached hereto.

On May 1, 1992 EPA issued its Proposed Plan for Torch Lake. One reads in vain in the Plan for any reference into the encouraging and undisputed findings listed above. Instead, EPA has ignored most of the data and mischaracterized the rest in a transparent attempt to justify a proposed remedy that requires 1000 acres of stampsands and slag to be covered with topsoil and plant life at an estimated cost of $7.2 million.

Region 5's principal rationale for the Plan is that certain bottom dwelling organisms do not thrive in the sandy bottom areas of Torch Lake and that this constitutes and environmental loss. The upper food chain -- fish, birds and other wildlife -- do not show any harm from this alleged condition. The same argument could be made with respect to every manifestation of man's presence on earth. Civilization has altered our environment in numerous ways; every change cannot possibly justify corrective action under

CERCLA. Moreover, the remedy -- control of wind blown sands -- is demonstrated by studies in the record to be unnecessary and of no possible beneficial impact.

Almost no one in the Torch Lake area supports EPA's Proposed Plan for the simple reason that it is unnecessary and wasteful. Moreover, as the public has repeatedly stated, by insisting upon a remedy when no action is warranted, EPA has unnecessarily stigmatized the entire area as a toxic waste site, thereby injuring it in both economic and recreational terms. These views have been made known to EPA repeatedly during the comment period, as is demonstrated by the material attached as Exhibit 4.

In a transparent attempt to deflect this opposition, in the midst of the public comment period an EPA official appeared on a radio talk show and informed members of the public, including municipal and landowner PRPs, that they should not oppose the Proposed Plan because EPA would only make large corporate PRPs pay for it. The official stated that EPA was prepared to issue covenants not to sue to all municipal PRPs and landowner PRPS, and presumably give them contribution protection as well, in exchange for only access to the sites in question. The EPA official said:

> [I]n the ideal case, municipalities can give us that access to us and get the covenant not to be sued and then we just deal with the major three companies, basically, and then negotiate. But if they [the municipalities and landowners] have a covenant not to be sued, these three major PRPs have no choice to negotiate with us whatever terms we have.

(Exhibit 1 at 5-6). No monetary settlements, de minimis or otherwise, would be required from this favored group. A copy of the transcript of the May 24, 1992 radio broadcast is enclosed as Exhibit 1. EPA representatives have repeated these representations on a number of occasions since the initial radio broadcast.

These actions by Region 5 are violative of both the plain language and spirit of CERCLA. First, a message has been clearly delivered to certain PRPs, including local governments and current landowners that, if they cooperate, no cost recovery will be required of them. This message was intended to, and will, stifle free expression in the form of comments on the merits of the Proposed Plan.

This conduct has seriously undermined the public comment provisions of CERCLA's remedy selection procedures. The National Contingency Plan ("NCP") states, as part of its mandated evaluation of alternatives, that EPA consider the following:

> **(I) Community acceptance.** This assessment includes determining which components of the alternatives interested persons in the community support, have reservations about, or oppose. This assessment may not be completed until comments ont he proposed plan are received.
>
> * * *
>
> 4. *Final remedy selection.* (i) In the second and final step in the remedy selection process, the lead agency shall reassess its initial determination that the preferred alternative proves the best balance of trade-offs, now factoring in any new information or points of view expressed by the state (or support agency) and community during the public comment period. The lead agency shall consider state (or support agency) and community comments regarding the lead agency's evaluation of alternatives with respect to the other criteria. These comments may prompt the lead agency to modify aspects of the preferred alternative or decide that another alternative provides a more appropriate balance.

40 C.F.R. § 300.430(e)(9)(iii)(I); 300.430 (1991).

By unlawfully attempting to remove opposition to its Plan through threats and inducements, Region 5 has demonstrated it regards opposition as not something to be evaluated, as required by CERCLA, but to be suppressed. The National Contingency Plan requires that the views of the local community be considered in a remedy selection. Rather than observe this requirement, Region 5 has attempted to manipulate the process to suppress all opposition.

In addition, Region 5 apparently does not even deem worthy of consideration the issue of whether it is fair

and equitable to unilaterally assign all PRP liability to three corporations. Compare 42. U.S.C. § 9613(f). Region 5's message here is equally clear: Corporate PRPs are deep pockets to be exploited, irrespective of CERCLA requirement that the costs of remedial action be equitably shared among PRPs and that allocation issues be addressed after remedy selection. This is bias, plain and simple.

This country faces very real environmental problems, but Torch Lake is not one of them. In an era of limited financial resources, it should be inconceivable that a federal agency would allocate vast sums to an unnecessary action such as Region 5's Proposed Plan on the basis of the Administrative Record assembled here. The scientific data show that Torch Lake is a safe, healthy, productive resource. The data shows that there is no meaningful risk to people or the environment from conditions there. None of the justifications for a Superfund remedy is present at Torch Lake.

For reasons we believe can only be an institutional bias against "no action" remedies, Region 5 is insisting upon a capping and vegetation remedy that will cost many millions of dollars. When challenged by the public as to the need for the remedy, EPA's response has

been "Don't worry. We will only make businesses pay for it."

We urge you to review in detail the Administrative Record for Torch Lake. We further urge you to inform Region 5 of your view of the substance of its Proposed Plan and of its misguided efforts to curry political support for it. If a fair consideration of the record here is performed, EPA will select a no action remedy for Torch Lake and allow the area's residents to get on with their lives. Since the comment period expires on July 13, 1992, we request that you to perform this evaluation as soon as possible.

Very truly yours,

Gaines Gwathmey, III

mb
enclosures

cc: Samuel K. Skinner
Clayton Yeutter
C. Boyden Grey, Esq.
Richard D. Darman
David McIntosh
Valdas V. Adamkus
Peter Felitti

May 24, 1992 *[Note: ellipsis ... indicate an unclear understanding of what actually was being said.]*
Radio Interview

Dick Storm (interviewer)
Jae Lee, Remedial Project Manager, Remedial and Enforcement Branch for the U.S. Environmental Protection Agency

Re: Torch Lake Superfund Site

STORM: Thanks for consenting to do our interview today. It's kind of nice seeing you again after several months or last week, Jae.

LEE: Hi. It's nice to see you again.

STORM: Of course, you were here and had a packed house in Hancock -- what was your reaction to the comments that you heard here, what was going through your mind as you left that meeting room?

LEE: Well, the comments from people is some ... than what I expected, when I prepared this meeting, is basically about the liability issue, is basically who is going to pay this expected $7.2 million. This is somewhat different issue than whether the proposal we made, the remedial action we proposed -- whether the ... of this proposal is ..., a totally different issue than the liability issue. So I'm not really surprised by the reaction from the people.

STORM: Okay. Let's talk about both of those issues. Now, they call this a Superfund Site. A Superfund, I gather is federal money that was supposed to be spent on cleaning up hazardous waste sites. So, if this is Superfund Site, how come they're talking, I

mean, doesn't the federal government pay for this, or how does this work?

LEE: Well, it's a Superfund Site, doesn't necessarily mean that the federal government uses superfund money to clean up the site. If there is no liable PRPs (potentially responsible parties), we call it an "Open Site." There is no PRPs, then the EPA will spend superfund money for the Site. But, if there are viable PRPs, then, basically, we enforce the law to ask the PRPs to implement the proposed remedy. And basically ask them to spend their money to clean up the site.

STORM: How do you determine who is a potentially responsible party?

LEE: By the law, the responsible party, the defined original generators -- in this case the one who disposed the mine tailings in the Lake, and those who operated it at the time of disposal, and those who transported this material to this area. And also, we define the current property owners also as potentially liable for the site. There is in when we implemented this law, there is also strict difference between the original generators versus current property owners. And, somehow, in this case, we have basically three issues. The first issue is the local townships or city municipalities, they are the current property owners. That's the first issue. And, second issue is the individual property owners, basically, the individual person who owned the property. And, third issue is the people who currently operate the business, such as

... company, ... tailings, and ... Houghton County is using some of these materials to make the ice damage process in the wintertime. There are three basic different issues, and EPA is aware of these issues. And we somehow resolve this issue as peacefully and also efficient as possible.

STORM: So, you have not determined who the PRPs are for this area yet.

LEE: Basically, those who generate original tailings. At the beginning of this investigation, we defined the three PRPs, Universal Oil Products, whose inheritor was the Calumet & Hecla Mining Company, second is the Quincy Mining Company and third one is Quincy Development Corporation. The three PRPs named here and it is possible we name more PRPs based on the property owner issues. Those who currently own some of this property will be also named as a PRP and we will send notice later, in the future, not necessarily to get the same liability issue. Its more we would like to send the notice to the current property owners, such as municipalities and individual owners to get the site access. So, for example, if some county such as Houghton County or a city like Hancock, they own some of the tailing piles, they will get the notice letter from EPA, and they come to the negotiation table and they only have to give us that access. Basically, they say 'okay we will give you access' that EPA will do some work for our tailing pile, and they can have covenants not to be sued and that's what the basic approach will be. *And that means that any individual property owners or municipalities*

currently the owner of these tailing piles can give the site access and get the covenants not to be sued. [Emphasis added.] And then most of the PRP who have to pay the cost will be mostly those companies who originally generated this materials. Or the company who bought or purchased or inherited this original mining company will be the one who mostly has to pay for the cost.

STORM: Are you saying that you're willing to tell a person or anyone who owns a piece of property that you'd be willing to agree not to have them sue, that they'll give you access to it -- is that what you said?

LEE: Yes. I don't think the government will go after individual property owners or municipalities to get the money. It's basically purpose of what the issue in ... to them is to get the site access. We need access to get the property to work something on it. So, they come to the negotiating table, and then they can sign the site access agreement, and they'll get the covenant not to be sued. And that will be the flexibility of the negotiation. The impression I got from this meeting that people somehow misunderstand that somehow that they are the PRPs or responsible parties or make that they pay the $7.2 million, not necessarily.

STORM: Well, then the only ones that would be probably liable are the three you mentioned earlier: UOP, Quincy and Quincy Development.

LEE: Yes.

STORM: Those are the main ones?

LEE: Yes. The most they pay if it is that the viable PRPs, those who are the original generators, usually EPA probably deal with them mostly for the monumentary issues. And if these PRPs, three companies, come to us and saying that if they don't have enough money to pay for it, there's always a way that we can share this burden together with EPA and these PRPs.

STORM: Okay. So if a company, what happens for instance if you say UOP or Quincy, Quincy Development Company, you're liable, and they "well I am, I'm not going to pay it"?

LEE: If they say they're not going to pay for it, then there is a possibility the EPA, as you said earlier, ends up paying most of the money. And then we will decide whether we go after these three PRPs or not. That's what we decide internally. *So, the reasons why the municipalities or property owners is important to come to the negotiation table and give us that access and they should have covenants not to be sued. So, in case, whether we go after these PRPs and to get all the money back that we spent from superfund money, then they will turn around and then sue this municipality to get their money back. So that's what's important for municipalities to get the covenant not to be sued from the EPA. And then give us that access. So, in the ideal case, municipalities can give us that access to us and get the covenant not to be sued and then we just deal with the major three companies, basically, and then*

negotiate. But if they have a covenant not to be sued then these three major PRPs have no choice but to negotiate with us with whatever terms we have. [Emphasis added.] Then, if EPA is willing to share some money with the state, maybe you have a state and EPA and also these three PRPs, we can share the cost of burden. Or, if some other negotiation, some other techniques or what assessment can be made can be made very easily. And there is no reason for municipalities to assume that they have to pay all this and should back away from this and completely object this remedial options purportedly made. And that somehow is a misunderstanding I think that most of the municipalities have. And this is not an unusual issue. I mean, this is very common throughout the whole open site. But there are so many other open sites. In other cases like the municipal landfill, there is a lot of landfill and they ... the bank of the local county or local city and then we deal with the local county or city because we have to get access and then we define who generated this toxic material. There's a lot of company who generated who send them to the municipal landfill and then we usually go after these company who generated the material and then basically have the site access from the municipalities and they will get the covenant not to be sued. And they won't be sued very carefully in most case. But that kind of pattern, that kind of assessment can easily be made here. But if the municipality doesn't cooperate with EPA, doesn't come to the negotiation table, then more legal problems occur later.

of these Houghton County's the use of this material, the ice damage, they can still also operate under whatever terms we can have. We know that there is certain economy problems that your county has, your local community has. We have no desire to put anybody in backward in that sense. So, we can build a good negotiation teams in the table, and we can make everybody happy, because everybody who are living around the tailing pile, they can be happy because it's all covered, and they don't have to be harassed by this air pollution or dust problem. Hopefully, we will eliminate all the environmental problems you have and also, we like to make happy all these current operating businesses, including this Houghton County. We can have some negotiation technique developed that they can continue to operate their business, and hopefully the EPA will be happy and all the PRPs will be happy. It basically depends on how we develop the negotiations, and the flexibility is always there and there is a lot of rooms available. Everybody wins in this situation, and that's something that I'd like to strongly emphasize on this case and that there is room, yes, at the negotiation for everybody who participates in the negotiation will be happy.

STORM: Well, some people said as they walked out of the meeting that "it doesn't matter what we say the EPA has already made up its mind." What you're saying is that's not true.

LEE: Oh, that's not true. At this point we have, I think, a lot of negative comments about this proposal action, but mostly the negative comments is

because of the liability issue, not necessarily the remedial action itself. So, we have not determined yet at this point our, internally at EPA, I have to go to upper management to our briefing process, and I will forward all these concerns and comments I receive from the people and probably some time next month, sometime middle July or at the end of July, my upper management will make a final determination. At this point, I don't know what will be at that point. But, even if we make a decision that we want to do something about the site, the flexibility about that the small details about whether we will shut down the local businessmen or we want to let them keep operating their current businesses as it is, cause there are more jobs and all this. And, yes, there is certainly flexibility, and EPA has *no interest* to shut down anybody's business, and anybody's currently operating good business, and so, yes, there is a lot of flexibility in the negotiation, and we can have a win-and-win situation in this case without any problems.

STORM: Okay, the comment period is open until July 1, you said then what. Sometime in July, you're going to decide whether you're actually, whether this is the plan that's going to be adopted?

LEE: Yes. After we receive all the comments from people until July 1, so sometime middle July we will make a final determination whether we want to change our proposal plan into the no action or something else, or we just we proposed at the last ... meeting, and just have a final decision. At this point we have

not decided. We have to wait until the final public comment period.

STORM: Now, we have been talking about what you have designated as Operable Units 1 and 3. What about Operable Unit 2?

LEE: Well Operable Unit 2 is a little bit different issue. Operable Unit 2 is involving the groundwater is more like 14 miles the shoreline of groundwater given only in the Torch Lake case. And also we have a surface water and almost 2,500 acres of the Torch Lake sediment. We talk, we dealing with this huge area, and at this point we have not decided what is the problem. The only thing we know is that the sediment in the Torch Lake is a little bit contaminated. It's about at what we call the protection level that the EPA considers. And, there are two scenarios right now that we are looking at. The first scenario is that either we propose no action for the entire Lake and entire groundwater and that's the first scenario because it's too large. I mean it costs too much money to do something about it. That's the reason why we propose no action. Second scenario will be we probably propose some remedial action to the hot spot in the Torch Lake area. As I mentioned in the meeting, there is around two or three acres nearby on the western shore of Torch Lake, very highly contaminated area. So we might propose some kind or remedial action only for this hot spot. That will be how our second scenario will be. So we still have not decided yet whether we want to go for more action or we go for some kind of partial remedial action for the hot

spot. That's something we have not decided yet and still we are addressing any potential issues. And hopefully, we will go for to the public sometime next year whatever decision we made for the second Operable Unit.

STORM: Well, I guess the decision on Operable Unit 2 is what's holding up action by the U.S. Congress on the national historic park.

LEE: Second Operable Unit is nothing to do with this historical park issue. The historical park is designated on the Calumet area and one in the ... area. So, the only area, the two areas within our site is proposed ..., one is the ... site and one is the Calumet Lake tailing. And we propose no action to Calumet smelter site. So, I don't think there is any problem for the Congress to pass the legislature to propose the area as historical landmark site. I don't think there's any problem. As we said, there is no problem, that's what we are saying to the Congress.

STORM: So the EPA has signed off on the national historic park thing?

LEE: Oh, we don't, our ... sign up anything on it, but basically, if we, the decision, if the proposed plan we proposed last meeting is decided or determined as it is, somehow my upper managers, the end of July they sign up, I will be direct of decision without changing anything from the proposal I made at last meeting. That means that we are telling Congress that yes there is no problem, there is no problem in

the area that you propose is a national historical park or had proposed it, there is no problem. That's basically what we are saying there.

STORM: Okay, now if you decide to go ahead with the plan that you're going for, the re-vegetation and so on, how soon could that project get started?

LEE: Um. We will, let's say if at the end of July we make a determination, and then after that it will take maybe two or three months, we have to send the notice letters to responsible parties, and they start at negotiation, basically. Usually we allow four months of negotiation, 120 days of negotiation. If we have a good, everybody comes to negotiating table and then it will turn out to be good, then hopefully we can conclude all this negotiation by the end of this year, maybe early January, February of next year. And then, they have to go to the court to enter this, to ... this consent decree or the legal process comes into play. I presume that earliest we can implement this remedial action is probably early 1994, probably, somewhere in 1994 be good time to start with it. But, in between, there is a lot of legal issues coming in play, doesn't work out so well, then we will take more time probably on this legal time.

STORM: So, you don't just go in there and say "okay, this is the plan, these PRPs aren't agreeing, we're going to do it and then we'll, you know, we'll bill them later" -- you don't do that?

LEE: Well, by simplest, I mean, there are so many options at this point. Basically, we each notice to PRPs and people, you know, the PRPs being if their reaction was "hey we're not going to do this, this is crazy, we're not going to do this" and then EPA will decide either we order them to do, we send what you call ... letter order, we order them to do, or we say, well if they don't want to do it then we will do it. Then basically EPA will start designing. If EPA decide to start design an action, then it can start as early as next year, next spring we can start with it. But, if they decide to participate in this process, PRPs, and then it will take more time, they have to the consent decree to sign and all this legal process involved, and it will take some time. So, at this point I don't know which way it will turn out to be. It could be everybody involved would be willing to come and negotiate and could the consent decree signed up and then you go to the court to enter and log it, and then it will take some time on this legal process. A second option is that if they don't want to do it then EPA decide we going to spend our superfund money, then maybe we start early next year. So, it has some different directions that we would like in the future.

STORM: Well, you considered a couple of different alternatives. You know, fencing off the slag piles was one, removing the stuff which would be very expensive, doing nothing and the vegetation. Those are the four basic alternatives you decided. What made you decide to cover instead of taking no action which is what many people are calling for, which I

thought was kind of strange, because most of the time people say the government doesn't do enough, now you're proposing to do something, and they don't want you to do it.

LEE: Well, it did too material. The one, the first was the tailings. Tailings we have only two alternatives to be evaluated. First, no action was the soil problem in vegetation. And, based on all this issue we have human health issue, cancerous and non-cancerous, and there is also potential leak into the groundwater to the surface water and the erosion to the lake sediment and also there is, we have a serious problem in ... problems. And, also we did in the great lakes area of concern. All this problem, we, in comprehensive prospective, we thought the no action is not a good idea. Then you are saying the soil problem based vegetation with $7.2 million is the fastest solution, is not that expensive. The typical open site, the remedial action calls for every $25-$35 million. $7.2 million is not a really expensive remedy so we believe that this is the most recommendable remedy to the public for tailing. However, the slag material put the fence around or remove the slag to other locations up site disposal is very expensive, is not really practical so we believe that the slag material in the local harbor maybe put some soil and probably vegetation would do best the remedial actions we can propose. That's what we are proposing to the public. However, ... the slag is in this area of the proposed ... area wants develop the national park we will believe there is not much

risk involved. That's why we are proposing no action to this ... land.

STORM: Well, I guess what the people here have said, you know, and I want to go back to kind of clarify a statement that I made earlier. You know, what they're saying is that even though, you know, a lot of times, "geez we'd like the government to do something for us and they're not doing," what they're telling you is that "hey, we'd rather have you do nothing than what you're planning." [PAUSE] Right?

LEE: Uh. Is it more like asking or more like the perception people have about the?

STORM: Isn't that basically what they're telling you that they'd rather have you do nothing than what you're planning.

LEE: Well, I don't know, I mean, no comment, about what people believe about what our federal plan is but. We are saying that basically this is the best thing for the people and for the environment in this area. And, basically, people are saying to us that what propose no action because, because we might have to pay for it. That's what they are saying.

STORM: Oh, okay.

LEE: Not necessarily, they are thinking, "hey believe there's no problem, don't do anything." It's not like they are asking, they are challenging about the plan itself, they are asking about "well the plan is a good idea, this is all we are looking for a long

time, but if we end up paying for it, no, we don't want to do it." And, I'm saying that no, you don't have to pay for it, that's what I'm saying. I'm saying that there is room at the negotiation desk. *All you have to do is give us access, and you'll get the covenant not to be sued. And somebody, either federal government or the companies who originally put the tailing, they might end up paying for it. There's what, there are different opinions, this plan we propose is the same plan proposed by Michigan Technical University in 1983 and the same plan proposed by local counties.* [Emphasis added.] And currently they are working on the sludge and the mason tailings and the Lake Linden people are working on to fill up the tailings of Lake Linden basically. And there is also the local county, with MTU and Universal Oil Products, they cover the soil tailing harbor and the ... filling tailings. It's basically people ten years ago or five years ago people thought that the best thing for us to do is cover up this tailing with soil and good vegetation. That's what they thought the best thing for them, and they tried to get all the necessary resources, either from the PRPs, that is the original mining companies or state or federal EPAs or local community volunteers. They all tried to do these, and now we the EPA can, we say the same conclusion they made five or ten years ago, yes the best thing for this is to cover up with soil and vegetation. That's what we are saying, and then people somehow misunderstood us that it's good, but we might have to pay for this, $7.2 million, we don't have any money, so basically they asking no action please. And that I strongly suggest that you don't

necessarily have to pay for this. There is a lot of flexibility in the negotiation. All you have to do is provide us access and have the covenant not to be sued.

STORM: Interesting. Can people still make comments on this plan, they can make comments until July 1, as I understand, right?

LEE: Yes. I'm still receiving comments from people. A lot of people sending letter to me that they like this idea. All the people live around the area, they believe this is the best remedy for them because, if you have all the tailing to cover with soil and vegetation, you will be really nice, to see to live around this area. But, those who own the property or currently operating their businesses is kind of afraid that they might have to pay some money for this, and some of them are rejecting this. But they said that ... this time that not necessary they have to pay for this.

STORM: I want to remind people that the comment deadline is open upon the 1st of July. You can send your comments -- would you prefer that they be sent to you or the Phil Schutte?

LEE: Phil Schutte is the one who receives all these comments.

STORM: Okay. Community Relations Coordinator, Office of Public Affairs of the U.S. Environmental Protection Agency, 77 West Jackson Boulevard, Chicago 60604. I

have the address here for anyone who would want it. Thank you for being our guest today.

LEE: Okay, thank you.

STORM: Hold on a second, okay? Jae Lee, who is the remedial project management of the U.S. Environmental Protection Agency for the Torch Lake Superfund Site.

EVALUATION OF THE TORCH LAKE RISK ASSESSMENT OPERABLE UNIT I

Prepared for:

Mr. Gaines Gwathmey
Paul, Weiss, Rifkind, Wharton & Garrison
1285 Avenue of the Americas
New York, New York 10019-6054

Prepared by:

Geraghty & Miller, Inc.
75 East Wacker Drive
Suite 1100
Chicago, Illinois 60601

March 25, 1992

EVALUATION OF THE
TORCH LAKE RISK ASSESSMENT
OPERABLE UNIT I
TORCH LAKE SUPERFUND SITE
HOUGHTON COUNTY, MICHIGAN

March 25, 1992

Geraghty & Miller, Inc. is submitting this comment report to Mr. Gaines Gwathmey of Paul, Weiss, Rifkind, Wharton & Garrison, in reference to the Baseline Risk Assessment Report prepared for Operable Unit I of the Torch Lake Superfund Site located in Houghton County, Michigan. The Baseline Risk Assessment Report that is the subject of this comment document has been prepared by Life Systems, Inc., under contract with the United Stated Environmental Protection Agency. If you have any questions or comments concerning this comment report, please contact one of the individuals listed below.

Respectfully Submitted,
GERAGHTY & MILLER, INC.

Donald R. Huff, Ph.D.
Senior Scientist

Gary W. Kruger
Project Engineer/Chemical

CONTENTS

LIST OF TABLES

1.0 INTRODUCTION

In October 1991, the United States Environmental Protection Agency (USEPA) released to the public an Information Update (the Update) relating to the Torch Lake Superfund Site in Houghton County, Michigan. The Update reported that the USEPA had received a Final Baseline Risk Assessment for Operable Unit I (OU I) of the site from Life Systems, Inc., and that the "risk to public health posed by the contaminants [there] is within the range acceptable to the EPA." Although acknowledging that risks within the acceptable range mean generally that no action is warranted, the Update nevertheless stated that the USEPA was continuing to evaluate cleanup options.

Geraghty & Miller has evaluated the Final Baseline Risk Assessment Report for Torch Lake, Operable Unit I prepared by Life Systems, Inc., for the USEPA dated July 18, 1991. Included in this evaluation is an analysis of the baseline risk assessment and an interpretation of the results with regard to remedial action decisions. This analysis of the OU I baseline risk assessment revealed that the risk assessment utilized unrealistic and overly conservative assumptions in many of its risk estimations and overstates the health risks associated with OU I. These overly conservative assumptions, as well as certain errors and omissions, are identified below. In addition, information is set forth concerning natural material background conditions so as to permit a meaningful comparison to risks from naturally occurring inorganic elements such as copper, beryllium, and arsenic. These data, even when evaluated in accordance with the USEPA's extremely conservative methodology, show a health risk from OU I that is within or below ranges of risks acceptable by the USEPA. The data show that there is no human health basis for remedial action on the site.

2.0 SUMMARY OF BASELINE RISK ASSESSMENT

Data used in the baseline risk assessment consisted primarily of analytical data from surface and subsurface tailings samples collected during the remedial investigation. Air sample data collected during the remedial investigation were not used due to quality control problems (the small number of samples were not believed by the USEPA to be representative of long-term conditions, the data could not be extrapolated to other exposure points, and laboratory analyses were not completed for all contaminants of potential concern). Air concentrations were estimated using modelling approaches.

Four exposure populations were identified and assessed: (1) current and future off-site residents (adults and children); (2) workers (lagoon and sludge spreaders); (3) campers (adults and children); and, (4) future on-site residents. Current residents at Lake Linden, Hubbell/Tamarack City, Mason, and Hubbell Slag Pile/Beach Area were included in separate assessments. Future residents along the east shore of Torch Lake across from Lake Linden and Mason as well as future residents in stamp sand sampling sectors 1/2, 6/7, and 9 were evaluated separately for potential human health risks. The exposure pathways that were evaluated were inhalation of particulates and ingestion of slag and tailings (stamp sands). Noncarcinogenic (subchronic and chronic) and carcinogenic risks were estimated for each applicable population/exposure pathway combination.

2.1 BASELINE RISK ASSESSMENT RESULTS AND CONCLUSIONS

The baseline risk assessment concluded (p. 7-4) that:

[excess lifetime carcinogenic risks for] all current residential populations are equal

> to or below 1.0E-06 except at the Hubbell residences (excess lifetime cancer risk = 10^{-4}) whose backyards are in the vicinity of the slag pile and slag beach. The [excess lifetime] cancer risks posed at assumed future residential exposure points on the tailings piles range from 1.0E-5 to 3.0E-05. Chemicals contributing to these risks include arsenic, beryllium, and chromium.
>
> [Excess lifetime cancer] risks to lagoon workers range from 1.0E-05 to 8.0E-06. This risk is attributable primarily to ingestion of tailings containing arsenic and beryllium.
>
> No [excess lifetime] cancer risks greater than 1.0E-6 were calculated for future residents on the eastern lake shore, for the campground scenario or the occupational sludge spreading exposure scenario at Sector 9.

The baseline risk assessment also found that noncarcinogenic hazard indices (where a hazard index greater than one is interpreted to mean that there may be concern for potential noncancer effects), did not exceed one for any chronic (adult) exposure pathway. Subchronic (child exposures) hazard indices exceeded one for current residents at Hubbell (near slag pile/beach), future residents living on tailings, and campers at Lake Linden campground. However, the baseline risk assessment concluded that:

> Only one chemical, copper, at the slag pile/beach scenario contributed an HQ (hazard quotient) that exceeded one.... Since all chemicals [contributing to elevated hazard indices] have different [human health] endpoints, only the HI [hazard index] calculated for the slag pile/beach area [where the HQ for copper is 2] appears to be a cause for concern.

Further review of the noncarcinogenic results indicates that copper at the slag pile was the only element driving the elevated hazard index for this scenario.

2.2 RISK ASSESSMENT DEFICIENCIES

A significant number of deficiencies in the risk assessment have been identified, virtually all of which result in overly conservative conclusions. These points, which are discussed in the sections to follow, include:

(1) USEPA Guidance states that the carcinogenic risk levels as found at this site are at levels that generally do not warrant remedial action;

(2) Background concentrations of copper, arsenic, beryllium, and other contaminants of concern were not considered when drawing conclusions regarding the significance of risk from these materials;

(3) The inedible constitution of the material from the slag pile was not considered or mentioned when drawing conclusions regarding the significance of ingestion risks from that area;

(4) Period of exposure estimates are unrealistically high, and many of the estimates used did not agree with current USEPA recommended exposure periods;

(5) The reference dose (RfD) for copper that was used to formulate the only potentially significant noncarcinogenic risk for the site is not an EPA-accepted toxicity value;

(6) Soil ingestion rates are excessive as they do not use realistic exposure assumptions regarding worker exposure to soil;

(7) Soil ingestion rates are excessive as they do not account for the 149 days of annual snow cover that

blankets the area;

(8) Air inhalation rates for children are overestimated and do not follow USEPA guidelines;

(9) The majority of risks (and maximum concentrations used for risk calculations) associated with organic chemicals of concern on the site were dominated by the use of "non-detect" values with detection limits that were commonly an order of magnitude higher than concentrations actually detected; and,

(10) The assumption that all detected chromium on-site is hexavalent chromium is most likely inaccurate and is overly conservative.

3.0 CORRECTIONS IN RISK ASSESSMENT ASSUMPTIONS AND INTERPRETATION

3.1 TOXICITY THRESHOLD ASSUMPTION FOR CARCINOGENIC RISKS

On page 7-2 and 7-4 of the baseline risk assessment report it is stated that 10^{-6} (one in a million) is the level of concern for excess lifetime cancer risks. However, recent USEPA guidance on the role of the baseline risk assessment in Superfund remedy selection decisions (USEPA, 1991a) recommends that 10^{-4} (one in ten thousand) be used as an action level for most sites. This guidance states that:

> Generally, where the baseline risk assessment indicates that a cumulative site risk to an individual using reasonable maximum exposure assumptions for either current or future land use exceeds the 10^{-4} lifetime excess cancer risk end of the risk range, action under CERCLA is generally warranted at the site. For sites where the cumulative site risk to an individual based on reasonable maximum exposure for both current and future land use is less than 10^{-4}, action generally is not warranted, but may be warranted if a chemical specific standard that defines acceptable risk is violated or unless there are noncarcinogenic effects or an adverse environmental impact that warrants action.

Later in this same guidance it is stated that:

> Furthermore, the upper boundary of the risk range is not a discrete line at 1×10^{-4}, although EPA generally uses 1×10^{-4} in making risk management decisions. A specific risk estimate around 10^{-4} may be considered acceptable if justified based on site-specific conditions, including any remaining uncertainties on the nature and extent of contamination and associated risks. Therefore, in certain cases EPA may consider risk estimates slightly greater than 1×10^{-4} to be protective.

Carcinogenic risks reported in the baseline risk assessment report were all less than or

equal to 10^{-4}, no chemical specific standards for the materials found on the site were reported to be violated, noncarcinogenic risks associated with the site are not significant when background levels of copper are considered, and no adverse environmental impacts were identified. Furthermore, the summary of the uncertainties assessment of the baseline risk assessment report notes that "the risks derived for this site should be considered approximate and are more likely high than low." Therefore, even if the baseline risk assessment's values are not corrected, carcinogenic risks for the Torch Lake Operable Unit I are below the regulatory level of 10^{-4}. Thus, in agreement with current USEPA guidance, it is reasonable to conclude that current conditions at the operable unit are protective of human health (carcinogenic risks) and do not warrant a remedial action, even when using the uncorrected and overly conservative USEPA baseline risk assessment values.

3.2 NATURAL BACKGROUND RISKS

The majority of the risks from the Torch Lake Superfund Site as identified in the baseline risk assessment are associated with inorganic constituents. However, the baseline risk assessment fails to address the fact that background concentrations of many of these elements pose potential risks equal to or greater than the risks currently calculated for the slag and the stamp sands associated with the site.

All of the inorganic chemicals of potential concern are naturally occurring in soil. It is important recognize that the very reason why the area surrounding Torch Lake is inhabited to the extent it is today is due to the naturally high background levels of a naturally occurring element, specifically copper. Other naturally occurring elements, such as arsenic, chromium, silver, aluminum, and beryllium, are commonly found in native soils, and the area surrounding Torch Lake is rich in naturally occurring elements.

For the inorganic potential chemicals of concern, the highest hypothetical carcinogenic risks were dominated by arsenic and beryllium, and the only non-carcinogenic risk calculated above a hazard quotient of 1.0 in the baseline risk assessment was due to copper. The impact of common background levels of these naturally occurring elements on the site are discussed below.

3.2.1 Copper

The Lake Superior district of the Upper Peninsula of Michigan is the only place in the world where native copper has been found in great abundance (Newton & Wilson 1942), and the Keweenaw Peninsula is one of the few remaining sources of native copper. It is here that copper has been found in its unadulterated (up to 99.9% pure) elemental state.

The Calumet conglomerate ore body, which runs very near the Torch Lake area, was responsible for almost half of the entire production of copper from the region before it was closed in 1939, and the richest mineralizations in this ore body occurred near to the surface (Benedict 1952). These deposits were mined from the surface centuries before the traditional mines were opened in the mid 1800's. There is substantial evidence that surface mining of copper was conducted by a prehistoric race circa 200 A.D., and this early mining practice stopped by at least by 1200 A.D. (Jensen & Bateman 1979; Benedict 1952). The indians followed these early miners by surface mining themselves, as documented by Franciscan missionaries that occupied the area in the 1600's (Benedict 1952).

Copper is therefore ubiquitous in the area, and has existed in naturally high concentrations (999,000 mg/kg) at or near the surface for thousands of years. The largest concentration of copper found on the site in the materials in question (i.e., stamp sands and slag)

pertains to a single sample from the slag pile which was found to contain 12,800 mg/kg of copper. With the naturally high concentrations of copper throughout the area, it is fallacious to assign a meaningful risk number to the levels of copper found at the site.

As mentioned in Section 3.2 of this report, the risk as calculated in the USEPA baseline risk assessment is based on a non-EPA accepted reference dose (RfD). Regardless of any theoretical risk from copper, when the history of the area and the prevalence of copper in the region is considered, any increased potential risk posed by copper at the Torch Lake site is not significantly greater than background risks.

3.2.2 Arsenic and Beryllium

The Torch Lake region has been known for thousands of years as an area that is rich in metals. Often associated with the deposit of a major metal (e.g., copper) are deposits of other minerals (e.g., arsenic and beryllium), as well.

The USEPA in the Torch Lake Remedial Investigation Report for Operable Unit I (USEPA 1990) reported that naturally occurring background concentrations of arsenic typically range from 1 to 40 mg/kg. However, the copper deposits located in the Torch Lake area are often associated with arsenic (Jensen & Bateman 1989; Newton & Wilson 1942), and thus the typical common native range for this element would be expected to be higher in the Torch Lake area. Analyses of melting furnace copper from the smelting operations conducted in the Torch Lake area have revealed that the mixture naturally contains approximately 4,000 mg/kg of arsenic (Newton & Wilson 1942); this represents the naturally occurring arsenic that is associated with the copper and copper-bearing material that is common to this area.

Stamp sands on the site have revealed extremely low levels of arsenic, with approximately 65% of the samples showing levels of arsenic that are below detection limits. Stamp Sands demonstrated an average arsenic concentration of approximately 1.5 mg/kg and a *maximum* arsenic concentration of only 8.3 mg/kg. These levels are well within the lower end of the typical background soil concentrations of 1 to 40 mg/kg for arsenic as quoted by the USEPA (USEPA 1990), let alone those one would expect to find in an area naturally rich in arsenic.

The highest detected level for arsenic on the site was from a single sample obtained from the slag pile (118 mg/kg). Although this sample is above the range one would expect to find occurring naturally in a typical soil, elevated levels of naturally occurring arsenic are not atypical on sites such as Torch Lake that are naturally rich in mineral deposits.

When considering the beryllium occurring on the site, the USEPA Remedial Investigation Report identifies naturally occurring concentrations of beryllium typically ranging from 0.1 to 40 mg/kg. The *maximum* concentration of beryllium found on the site was a relatively low 1.7 mg/kg found in the stamp sands. It should be noted that beryllium was only detected in two (2) of the 58 samples taken of the tailings, and was detected once in a singular sample at slag beach. The lack of regular detection and the extremely low concentration of beryllium found at the site yields any significance to the hypothetical risk posed by beryllium questionable, at best. Due to the low detection frequency and minor concentrations of beryllium found on the site, it is unknown why beryllium was retained as a chemical of concern.

3.3 CONSTITUTION OF SLAG PILE

Ingestion risks associated with the slag pile are contingent on the assumption that the slag

material is actually ingestible. The slag at the slag pile, however, was formed as the molten slag liquid was poured from rail cars onto the ground where it cooled into a large, solidified mass. The vast majority of the slag at the slag pile (estimated from site visits by Geraghty & Miller personnel to be greater than 95% of the slag material in this pile) consists of pieces of slag that are too large to swallow. Conclusions drawn from all calculated ingestion risk values for the slag pile must therefore be tempered with the knowledge that the ingestibility of the vast majority of the slag in this pile is an unreasonable assumption. As a matter of fact, the USEPA correctly stated in the Remedial Investigation report for the site that "the amorphous massive structure of these [slag] materials do not contribute risk using reasonable exposure scenarios" (USEPA 1990).

3.4. PERIODS OF EXPOSURE

Various exposure assumptions do not agree with current recommended assumptions (USEPA, 1991b). The following are exposure assumptions that were used along with more appropriate replacement values:

- EF (exposure frequency) for adult and child residents should be changed from 365 to 350.
- ED (exposure duration) for adults should be changed from 70 to 30.
- Subchronic and chronic ATs (averaging times) should be adjusted to equal the corresponding ED values.

Worker exposure frequencies were not consistent among information reported in the text and tables of the report. For example, the 36 week exposure period for lagoon workers is not consistent with the 149 days of snow cover per year. A more appropriate assumption would be 31 weeks of exposure for lagoon workers. Similarly, the exposure frequency for sludge

spreaders is 84 days/yr in the text, 108 days/yr in Table 3-6, and 180 days/yr on Table 3-7. The most appropriate assumption appears to be the 84 days/yr as discussed in the text.

The baseline risk assessment makes the unrealistic assumption that 60% of the material ingested in the Hubbell area are from the slag pile and slag beach. There is no rationale for this assumption provided in the report. These values are clearly overly conservative considering the relative area of slag pile and slag beach as compared to other more frequented areas (e.g., backyards, playgrounds, parks, etc.) In order to ingest these materials in this ratio, one would have to spend 60% of their time (30% slag pile and 30% slag beach) on the slag areas. Compounding this overly conservative exposure scenario is the assumption that all slag material is in a form that can actually be ingested (see Section 3.3 above). A more realistic conservative assumption would be that 10% of the soils ingested in the Hubbell area (5% slag pile and 5% slag beach) come from these areas.

3.5 VALIDITY OF COPPER REFERENCE DOSE

The evaluation of risks due to ingestion exposures to copper in soils in the baseline risk assessment uses copper (an essential nutrient) as a noncarcinogenic constituent of concern. Therefore, a hazard quotient was estimated for copper based on the ratio of the estimated dose to an RfD. The RfD value of 0.037 mg/kg/d used in the baseline risk assessment was derived from the MCLG of 1.3 mg/L. However, according to the Heath Effects Assessment Summary Tables (USEPA 1991), toxicity data were inadequate for calculation of an RfD for copper. It should be noted that since the RfD is not an EPA accepted toxicity value, it is difficult to make a meaningful assessment of the risks associated to exposures to copper.

3.6 SOIL INGESTION RATES

The baseline risk assessment assumes that residential soil ingestion exposures are consistent throughout the year, regardless of snow cover. This is unusual since the USEPA did properly account for the snow cover factor when calculating risks associated with inhalation of contaminants. When calculating the airborne exposure to the blowing sands, the USEPA accounted for the 149 days of average snow cover on the site by reducing the overall contaminant exposure via air pathway by a factor of 149/365. Since this snow cover factor has been accounted for in the assessment of air exposure, it is also prudent to consistently assume that soil exposures via direct contact and ingestion would also be reduced by this factor (41%) due to snow cover.

The use of the 480 mg/day soil ingestion rate for lagoon workers and 100 mg/day for sludge spreaders is also too conservative. Recommended soil ingestion rates for industrial/commercial workers and agricultural workers are 50 and 100 mg/day, respectively (USEPA, 1991b). The 480 mg/day value has been used to designate high soil exposure activities such as landscape workers. It is not realistic to assume that a sludge worker will consider sludge as innocuous as a landscaper considers the soil. Therefore, the 100 mg/day rate would be more appropriate for the lagoon worker and 50 mg/day would be more appropriate for sludge spreaders.

3.7 AIR INHALATION RATES

On page 3-13 of the baseline risk assessment it is stated that a "time-activity weighting for children results in an estimated upper-bound inhalation rate of 1.9 m^3/hr...." By estimating breathing rates in this way it is incorrectly assumed that children are at rest only 12.5% (3

hours) of the resident child's 24 hour day, and the remainder of the day is spent in light to heavy activity. Using activity patterns (Table 5-8, p. 5-25) and inhalation rates (Table 3-1, p. 3-4) presented in the USEPA "Exposure Factors Handbook" (USEPA 1989), it is estimated that resident child inhalation rates would be approximately 0.96 m^3/hr and child campers would be approximately 1.1 m^3/hr. These values would more accurately estimate child inhalation exposures.

3.8 USE OF NON-DETECTS IN RISK DETERMINATION

The use of assumed exposure point concentrations for those samples for which there were no detectable quantity of a particular chemical of concern had a marked effect on the individual risk numbers for the site, particularly for the organic contaminants of potential concern in the slag pile and slag beach areas (see Table WK14 on Page A3-29 of the USEPA baseline risk assessment). In these areas, unlike in the stamp sand areas, positive values were assigned in cases where a contaminant was not detected in any sample. For the slag pile, for example, a value of 0.34 mg/kg was assigned to all of the polycyclic aromatic hydrocarbon (PAH) exposure concentrations, and yet none of the PAHs listed were found above detection limits. Similarly, 9 of the 14 listed PAHs were undetected in the slag pile sample, yet the value of 0.34 mg/kg was assigned to those non-detects, as well. Of the 5 PAHs that were detected at the slag pile, all levels detected were an order of magnitude below the 0.34 mg/kg level assigned to the non-detects. Therefore, a substance that remained undetected in the slag material was assigned a significantly higher exposure point concentration than any substance that was actually detected in the slag material. The assignment of exposure point concentrations that are an order of magnitude higher than those values actually detected in the material in question is inappropriate.

Any hypothetical risk number associated with the existence of the small concentrations

of PAHs found on the site must be tempered with the realization the major source of PAHs in the study area is most likely from the wood burning practices common to the area. The burning of wood to heat homes during the long northern winters is a common practice in the Torch Lake area, and the act of wood burning produces a large quantity of airborne PAHs. Geraghty & Miller has also observed the practice of open burning of tree pruning waste, yard waste, discarded furniture and other combustible waste adjacent to the lake. The open burning or uncontrolled combustion of any of these products produces airborne PAHs in significant quantities, and a majority of the PAHs detected on the site may be attributable to these private burning practices.

3.9 TOTAL CHROMIUM VS. HEXAVALENT CHROMIUM

Chromium is a naturally occurring element that is present in the environment in several forms, two forms of which are trivalent chromium and hexavalent chromium. Chromium compounds are most stable in the trivalent state and occur in nature in this form in ores, such as ferrochromite ($FeCr_2O_4$); hexavalent chromium rarely occurs naturally (USEPA 1984, Hurlburt 1971).

Chromium is evaluated in the baseline risk assessment as both a carcinogenic and noncarcinogenic constituent. It was assumed in the USEPA baseline risk assessment that all of the detected chromium, which was analyzed as total chromium, existed at the site only in the hexavalent state. Hexavalent chromium is the more toxic of the two most stable states of chromium, with trivalent chromium, an essential nutrient, posing less of a threat to human health (ATSDR 1991). Hexavalent chromium is not known to be used or produced in any manner during the copper mining or refining processes. It is therefore reasonable to assume that all or most of the chromium found on the site is naturally occurring, and it is overly conservative to

assume that all chromium measured on the site is present in the more toxic and less common hexavalent state.

4.0 REVISED RISK ESTIMATES

Geraghty & Miller re-evaluated the quantitative risk estimates according to the revised exposure assumptions noted in Section 3.0, and using the same exposure point concentrations as presented in the risk assessment. Risk calculations are summarized on Tables 3-1 through 3-3. In conformity with the approach used in the baseline risk assessment, carcinogenic risks were estimated separately for a 6 year period of child exposure and a 24 year period of adult exposure. Therefore, the results presented on Table 3-1 are directly comparable the carcinogenic risks in the baseline risk assessment.

Estimated excess lifetime cancer risks were generally less than those estimated in the baseline risk assessment. Corrected excess lifetime cancer risks were less than 10^{-4} (one in ten thousand) in all cases. Therefore, all cancer risks were found at the level where USEPA guidance generally recommends no action. The exposure scenario with the highest estimated lifetime cancer risk (10^{-5} or one in one hundred thousand) was for future hypothetical residents in Sector 9 of the site. The majority of the risk for the hypothetical Sector 9 residents was due to the inhalation exposures to chromium in dust from the tailings (stamp sands) in this area. However, all detected chromium was assumed to be in the more toxic hexavalent state even though trivalent chromium (an essential nutrient) is the more common valence state (see Section 3.9 of this report). This conservative assumption was deemed necessary due to the lack of species-specific chromium data, but will inaccurately distort the calculated risk from this chemical. It is Geraghty & Miller's opinion that the revised 10^{-5} risk for this area still significantly overestimates the increased potential risk due to the continued assumption that all chromium on the site exists in the more rare and more toxic hexavalent state.

Other carcinogenic risks on the Torch Lake site were attributed to arsenic and beryllium

ingestion exposures; these risks, however, were associated with concentrations of naturally occurring elements that could be expected to be found in uncontaminated portions of this mineral-rich area. Therefore, the risks associated with these elements on the site can be largely attributed to natural background levels of these materials expected in the area (see Section 3.2 of this report).

Subchronic noncarcinogenic hazard indices were less than those estimated in the baseline risk assessment in all cases. Although subchronic noncarcinogenic hazard indices for two scenarios (future residents at Sector 9 and Lake Linden Campground) exceeded one, neither indicated a potential a cause for concern after evaluating the human endpoints (target organs or organ systems) potentially affected by the chemicals of concern. No single constituent or group of constituents that affect a similar human endpoint was found to have a hazard quotient (or index) greater than one; therefore, there is no significant noncarcinogenic risk associated with any scenario for OU I.

5.0 SUMMARY AND CONCLUSION

A re-evaluation of the data gathered for the baseline risk assessment revealed that excess lifetime cancer risks for all exposure scenarios were less than or equal to 10^{-5} (one in one hundred thousand). Since 10^{-4} (one in ten thousand) is the currently recommended action level for Superfund sites (USEPA, 1991a), the site would not appear to warrant a remedial action due to the excess cancer risks. Furthermore, naturally occurring levels of arsenic account for much of the estimated excess lifetime cancer risks, and therefore distort the significance of the calculated risk number.

With the exception of two scenarios, the cumulative hazard indices for all exposure scenarios were less than one, indicating a low potential for adverse human health effects. For the two scenarios that did have hazard indices of greater than one, the constituents of potential concern do not effect the same human health endpoints. Thus when evaluated with regard to affected endpoint as recommended by USEPA guidance (USEPA 1989a), neither of the scenarios has constituents associated with a hazard quotient of greater than one. Therefore, there does not appear to be a potential cause for concern due to noncarcinogenic health impacts.

In conclusion, Geraghty & Miller's re-evaluation of risks indicate that potential carcinogenic risks and noncarcinogenic hazards posed by the slag pile, slag beach, and tailings at Operable Unit I (OU I) on the Torch Lake site are at a level that USEPA guidance currently considers as generally not warranting a remedial action. The low levels of potential risks calculated for the site (along with the multitude of extremely conservative assumptions that drive these calculations) support the no remedial action conclusion. Based on a review of the data collected for the site, an analysis of the USEPA baseline risk assessment for the site, and a review of the history of the Torch Lake area, it is Geraghty & Miller's opinion that the potential

risks posed by any contaminants at OU I on the Torch Lake superfund site are insufficient to justify any remedial action on the site.

6.0 REFERENCES

Agency for Toxic Substances and Disease Registry (ATSDR) 1991. Draft Toxicological Profile for Chromium. U.S. Department of Health and Human Services. Public Health Service. Atlanta, GA, October 1991.

Benedict, C.H. 1952. Red Metal, University of Michigan Press, 1952

Gates 1969. Michigan Copper and Boston Dollars, September 9, 1969.

Hurlburt, C. S. Jr., ed. 1971. Dana's Manual of Mineralogy, 18th ed, New York, NY. John Wiley and Sons, Inc. pp. 346-7.

Jensen, M.L. and A.M. Bateman 1979. Economics of Mineral Deposits, third edition, 1979.

Michigan Department of Natural Resources (MDNR). 1988. How Clean Is Clean? Draft Guidance. Waste Management Division.

Newton, J. and C.L. Wilson 1942. Metallurgy of Copper, 1942.

U.S. Environmental Protection Agency (USEPA) 1984. Health Assessment Document for Chromium. Environmental Assessment and Criteria Office. EPA 600/8-83/014F.

U.S. Environmental Protection Agency (USEPA) 1989a. Risk Assessment Guidance for Superfund: Volume 1 - Human Health Evaluation Manual (Part A). EPA/540/1-89/002. Washington, D.C.

U.S. Environmental Protection Agency (USEPA) 1989b. Exposure Factors Handbook. EPA/600/8-89/043. Washington, D.C.

U.S. Environmental Protection Agency (USEPA) 1990. Final Remedial Investigation Report, Operable Unit I, Torch Lake Remedial Investigation/Feasibility Study, Houghton County, Michigan, February, 1990.

U.S. Environmental Protection Agency (USEPA) 1991. Health Effects Assessment Summary Tables. FY-1991 Annual. Office of Research and Development. Office of Emergency and Remedial Response. Washington, D.C. OERR 9200.6-303(91-1).

6.0 REFERENCES (Cont'd)

U.S. Environmental Protection Agency (USEPA) 1991a. OSWER Directive 9355.0-30. Subject: Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions. From: Don R. Clay, Assistant Administrator. Office of Solid Waste and Emergency Response. Washington, D.C. April 22, 1991.

U.S. Environmental Protection Agency (USEPA) 1991b. OSWER Directive 9285.6-03. Subject: Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors". From: Timothy Fields, Jr., Acting Director. Office of Emergency and Remedial Response. and Bruce Diamond, Director. Office of Waste Programs Enforcement. Washington, D.C.

TABLES

TABLE 3-1 COMPARISON OF CARCINOGENIC RISK

Exposed Population	Exposure Point	Exposure Medium	Exposure Route	Baseline Risk Assessment Cancer Risk Adult	Cancer Risk Child	Revised Estimate Adult	Revised Estimate Child
Current Resident	Lake Linden	Air	Inhalation	3E-07	2E-07	1E-07	2E-07
	Hubbell/Tamarack City	Air	Inhalation	2E-07	2E-07	7E-08	1E-07
	Mason	Air	Inhalation	1E-06	8E-07	3E-07	6E-07
	Hubbell	Slag Pile	Ingestion	9E-05	6E-05	3E-06	6E-06
		Slag Beach	Ingestion	9E-06	6E-06	7E-07	1E-06
		Air	Inhalation	2E-07	2E-07	7E-09	1E-08
			Total	1E-04	7E-05	4E-06	7E-06
Future Resident	East lake shore (across from Lake Linden)	Air	Inhalation	4E-07	3E-07	1E-07	3E-07
	East lake shore (across from Mason)	Air	Inhalation	9E-07	7E-07	2E-07	5E-07
	Sector 1 and 2	Air	Inhalation	6E-06	5E-06	4E-06	7E-06
		Tailings	Ingestion	1E-05	7E-06	1E-06	2E-06
			Total	2E-05	1E-05	5E-06	9E-06
	Sector 6 and 7	Air	Inhalation	3E-06	2E-06	6E-07	1E-06
		Tailings	Ingestion	9E-06	6E-06	4E-06	7E-06
			Total	1E-05	8E-06	5E-06	8E-06
	Sector 9	Air	Inhalation	2E-05	2E-05	4E-06	7E-06
		Tailings	Ingestion	7E-06	5E-06	1E-06	3E-06
			Total	3E-05	3E-05	5E-06	1E-05
Camper	Lake Linden Campground	Air	Inhalation	1E-07	3E-07	7E-08	1E-07
		Tailings	Ingestion	2E-07	5E-07	4E-07	7E-07
			Total	3E-07	8E-07	5E-07	8E-07
orker	Lake Linden Lagoon (Sector 1)	Air	Inhalation	7E-07	NA		
		Tailings	Ingestion	9E-06	NA		
			Total	1E-05			
Worker	Houghton Lagoon (Sector 6)	Air	Inhalation	3E-07	NA		
		Tailings	Ingestion	8E-06	NA		
			Total	8E-06			2E-06
Worker	Sludge Spreading (Sector 9)	Air	Inhalation	1E-07	NA		
		Tailings	Ingestion	5E-07	NA		
			Total	6E-07			3E-07

NA – Not Applicable. Workers are adults only.

TABLE 3-2 COMPARISON OF SUBCHRONIC NONCARCINOGENIC HEALTH HAZARDS

Exposed Population	Exposure Point	Exposure Medium	Exposure Route	Baseline Risk Assessment Hazard Index	Revised Estimate Hazard Index
Current Resident (Child)	Lake Linden	Air	Inhalation	3E-02	2E-02
	Hubbell/Tamarack City	Air	Inhalation	1E-02	9E-03
	Mason	Air	Inhalation	1E-01	5E-02
	Hubbell	Slag Pile	Ingestion	2E+00	2E-01
		Slag Beach	Ingestion	9E-01	8E-02
		Air	Inhalation	1E-02	9E-04
			Total	3E+00	3E-01
Future Resident (Child)	East lake shore (across from Lake Linden)	Air	Inhalation	4E-02	2E-02
	East lake shore (across from Mason)	Air	Inhalation	9E-02	4E-02
	Sector 1 and 2	Air	Inhalation	7E-01	3E-01
		Tailings	Ingestion	1E+00	6E-01
			Total	2E+00	9E-01
	Sector 6 and 7	Air	Inhalation	2E-01	1E-01
		Tailings	Ingestion	8E-01	5E-01
			Total	1E+00	6E-01
	Sector 9	Air	Inhalation	2E+00	7E-01
		Tailings	Ingestion	9E-01	6E-01
			Total	3E+00	1E+00
Camper (Adult)	Lake Linden Campground	Air	Inhalation	6E-02	
		Tailings	Ingestion	2E-01	
			Total	3E-01	
Camper (Child)	Lake Linden Campground	Air	Inhalation	6E-01	3E-01
		Tailings	Ingestion	2E+00	1E+00
			Total	3E+00	2
Worker	Lake Linden Lagoon (Sector 1)	Air	Inhalation	2E-02	
		Tailings	Ingestion	4E-01	
			Total	4E-01	1E-01
Worker	Houghton Lagoon (Sector 6)	Air	Inhalation	8E-03	
		Tailings	Ingestion	3E-01	
			Total	3E-01	4E-02
Worker	Sludge Spreading (Sector 9)	Air	Inhalation	7E-03	
		Tailings	Ingestion	5E-02	
			Total	6E-02	3E-02

ND- Value Not Determined

TABLE 3-3 COMPARISON OF CHRONIC NONCARCINOGENIC HEALTH HAZARDS

Exposed Population	Exposure Point	Exposure Medium	Exposure Route	Baseline Risk Assessment Hazard Index	Revised Estimate Hazard Index
Current Resident (Adult)	Lake Linden	Air	Inhalation	2E-02	2E-02
	Hubbell/Tamarack	Air	Inhalation	1E-02	7E-03
	Mason	Air	Inhalation	5E-02	5E-02
	Hubbell	Slag Pile	Ingestion	2E-01	2E-02
		Slag Beach	Ingestion	1E-01	1E-02
		Air	Inhalation	1E-02	7E-04
			Total	3E-01	3E-02
Future Resident (Adult)	East lake shore (across from Lake Linden)	Air	Inhalation	3E-02	2E-02
	East lake shore (across from Mason)	Air	Inhalation	5E-03	4E-03
	Sector 1 and 2	Air	Inhalation	1E-01	1E-01
		Tailings	Ingestion	5E-01	2E-01
			Total	6E-01	2E-01
	Sector 6 and 7	Air	Inhalation	1E-01	1E-01
		Tailings	Ingestion	9E-02	6E-02
			Total	2E-01	2E-01
	Sector 9	Air	Inhalation	7E-01	7E-01
		Tailings	Ingestion	1E-01	6E-02
			Total	8E-01	8E-01
Camper (Adult)	Lake Linden Campground	Air	Inhalation	2E-02	2E-02
		Tailings	Ingestion	6E-03	1E-02
			Total	2E-01	3E-02
Camper (Child)	Lake Linden Campground	Air	Inhalation	1E-01	
		Tailings	Ingestion	5E-02	
			Total	2E-01	ND
Worker	Lake Linden Lagoon (Sector 1)	Air	Inhalation	1E-01	
		Tailings	Ingestion	3E-01	
			Total	4E-01	2E-01
Worker	Houghton Lagoon (Sector 6)	Air	Inhalation	4E-02	
		Tailings	Ingestion	2E-01	
			Total	2E-01	7E-02
Worker	Sludge Spreading (Sector 9)	Air	Inhalation	2E-02	
		Tailings	Ingestion	3E-02	
			Total	5E-02	9E-02

ND- Value Not Determined

REVIEW OF THE FISH CONSUMPTION ADVISORY ON WALLEYE AND SAUGER IN TORCH LAKE HOUGHTON COUNTY, MICHIGAN

Prepared for:

Mr. Gaines Gwathmey, III
Paul, Weiss, Rifkind, Warton & Garrison
1285 Avenue of the Americas
New York, NY 10019

Prepared by:

Geraghty & Miller, Inc.
75 East Wacker Drive
Suite 1100
Chicago, Illinois 60601

June 4, 1992

REVIEW OF THE FISH CONSUMPTION ADVISORY ON WALLEYE AND SAUGER IN TORCH LAKE HOUGHTON COUNTY, MICHIGAN

In 1983, the Michigan Department of Health (MDPH) issued (and has since annually renewed) a voluntary fish consumption advisory for walleye and sauger in Torch Lake, Houghton County, Michigan. This review report summarizes the studies performed and other data collected relating to condition of Torch Lake and the basis for the advisory. As is more fully set forth below, all available information shows that the fish advisory is unnecessary and the basis for the advisory no longer exists. Despite repeated requests by the Michigan Department of Natural Resources (MDNR) to have the fish advisory lifted based on data from a number of studies that demonstrate the overall health and diversity of the fish population in Torch Lake, the MDPH has failed to rescind the advisory.

The original issuance of the fish advisory in 1983 was based on the observation of what was perceived to be an elevated number of external and internal tumors on two species of fish (walleye and sauger) in Torch Lake. Data did not show other species of fish from Torch Lake to have had abnormal tumor rates (MDNR 1987). In these tumor studies, only tumors of the liver and some unique perivisceral (internal organ) masses are of potential concern due to their historical association with water pollution in studies of fish in other water bodies (MDNR 1987). External tumors, especially in older fish, are not uncommon to these species in all lakes throughout the region, and these tumors are commonly associated with viruses and bacteria (MDNR 1987; MDNR 1988; Black 1989; USEPA 1983).

The MDPH issued the walleye and sauger fish advisory in Torch Lake purely as a precautionary measure, even though it was known that the tumors on the fish could not transmit cancer to humans (MDNR 1987). This type of fish advisory was unusual, since fish advisories are normally placed as a precaution relating to known or suspected human health risks associated with the consumption of known contaminants within the fish.

Numerous other fish tumor studies have been conducted following the initial study that was conducted in the mid-1970's, and the results of these have been summarized in several technical documents (MDNR 1987; MDNR 1988; MDNR 1990; MTU 1986). After reviewing the Torch Lake tumor data that had been collected to date through the Mid 1980's, the MDNR concluded that these data demonstrate that only old sauger and some old walleye have had high incidences of certain types of tumors or abnormal growths, and that the studies reporting the incidence of liver tumors did not consider the fundamental fact that these types of tumors are more common in older animals (MDNR 1987). The perceived increased incidence of tumors of concern reported in the studies previously performed, therefore, may be explained by the unusually high age of the fish population sampled.

Although the studies that were completed by Michigan Technological University (MTU) personnel in the mid-1980's concluded that the incidence of tumors in fish were increasing (Spence 1986), a review of the literature proved this conclusion to be false. The MDNR's review of the Spence study indicated that the study contained "errors or omissions of fact, misleading statements, faulty data interpretation, a lack of any statistical analysis, and apparent lack of understanding of the sampling regime required for fish population analysis and therefore the [inaccurate] determination of tumor or parasite infection rates" (MDNR 1988). The MDNR also stated in their review that the conclusions in the Spence report regarding increases in tumors and other growths in the fish in Torch Lake were "speculation based on faulty analysis, error and oversight."

A report from MTU (MTU 1986) that suggested that the growths found in the original tumor study conducted in the mid-1970's included cancerous liver tumors was also found to be false. Dave Tomljanovich, the individual who conducted this first tumor study as an MTU graduate student, has informed colleagues that the suggestion that the tumors found in his study were cancerous was "not true at all," and that contrary to what the MTU

researchers had indicated, experts had stated that the growths appeared to be non-cancerous (TVA 1987). Mr. Tomljanovich also related that at the time of his study he "would not have recognized a liver tumor even if he had seen one" (Black 1987). These revelations cast serious doubts on the significance of the initial tumor study.

Follow-up tumor studies conducted in 1988 have confirmed the absence of tumors in sauger, walleye, or any other fish species sampled in Torch Lake. The MDNR collected 455 fish representing 18 different species from Torch Lake in 1988, and none of the specimens revealed any tumors (MDNR 1989; MDNR 1990). In addition, bioassays of Torch Lake sediment have revealed that significant amounts of mutagenic or carcinogenic (cancer causing) substances are apparently absent from Torch Lake at this time (MDNR 1987; MDNR 1990). The MDNR concluded that these data strongly suggest that the liver tumor inducing agents above background concentrations do not exist in the Torch Lake/Portage Lake fishery (MDNR 1989).

Based on the lack of fish tumor abnormalities cited in studies of Torch Lake fish conducted over the past six years, the basis of the fish advisory for the consumption of walleye and sauger in Torch Lake no longer exists. The MDNR and others have recognized that the basis for the fish advisory no longer exists, and that the advisory should therefore be rescinded (MDNR 1987; MDNR 1989; MDNR 1990; Black 1989).

In response to the data showing no abnormal incidences of tumors on the fish in Torch Lake, the absence of tumoragens in the lake sediment, and the extremely low levels of contaminants found in fish from Torch Lake, the MDPH contacted the USEPA as early as December of 1989 and stated that they were considering lifting the fish advisory (MDPH 1990). However, the MDPH further stated that they were delaying the final decision to lift the advisory "at least another year," primarily due to the ongoing underwater drum sampling

program. The MDNR had earlier disagreed with such logic, however, stating that although multiple studies have revealed no site-specific tumor causing agents, the tumor problem appears to be due to historical exposure to short-lived organics, and it is therefore unlikely that these agents will be found in the lake (MDNR 1987). Regardless of the technical appropriateness of this delay in rescinding the advisory, the underwater drums in question were located and removed from the lake in 1991 during a thorough on-land and underwater drum search and removal program (G&M 1992).

Besides the fish advisory itself, the potential uses of Torch Lake by the community at large remain unimpaired. Numerous leaching studies have concluded that the stamp sands have a very low leaching potential, and thus very little metal will be released from the stamp sands to the lake (USDI 1991a; USDI 1991b; USBM 1991; Rose et al. 1986). In addition, the Torch Lake surface water and sediments do not present a human health threat to swimmers (MTU 1984; MDPH 1984; WUPDHD 1984). Recent studies have also concluded that the surface water does not have a significant adverse affect on fish (USEPA 1990; USEPA 1991), and MDNR testing of contaminants in the flesh of fish throughout the state revealed that the fish in Torch Lake are amongst the cleanest from all the inland lakes studied in Michigan (MDNR 1989; MDNR 1990).

The MDNR has noted that an abundant fishery existed in Torch Lake many years prior to the cessation of copper refining operations (MDNR 1986), indicating that the copper processing activities did not apparently have an significant adverse affect on the fish at that time. The MDNR has also stated that although the elevated copper concentrations in the lake are apparently toxic to some small benthic (bottom dwelling) organisms, the plants and animals currently found in the lake indicate a lake of very good quality, and Torch Lake continues to provide a good fishery (MWRC 1970; MDNR 1986). Site specific data collected on fish populations in an around Torch Lake have therefore shown that the reduced

REFERENCES

Black, J.J. 1987. Letter to Dr. Elwin Evans, MDNR, May 19, 1987.

Black, J.J. 1989. Letter to Dr. Elwin Evans, MDNR, December 20, 1989.

Geraghty & Miller 1992. Final Drum Removal Report, Torch Lake Drum Removal, Houghton County, Michigan, March 24, 1992.

MDNR 1986. Letter from Dr. Elwin Evans, MDNR, to Mr. Jim Aittama, Village of Lake Linden, December 5, 1986.

MDNR 1987. Remedial Action Plan for Torch Lake Area of Concern, October 27, 1987.

MDNR 1988. Interoffice Communication from Elwin Evans to Gary Klepper, Remedial Action Section, November 4, 1988.

MDNR 1989. Interoffice Communication from Elwin Evans to John Hesse, Center for Environmental Health Sciences, December 4, 1989.

MDNR 1990. Fish Growth Anomalies in Torch and Portage Lakes, 1974 to 1988, Houghton County Michigan, March 1990.

Michigan Department of Public Health (MDPH) 1984. Letter from John L. Hesse, Acting Director for the Center for Environmental Health Services, to Mr. Kenneth E. Rowe, Western Upper Peninsula District Health Department, June 7, 1984.

Michigan Department of Public Health (MDPH) 1990. Letter from John L. Hesse, Principal Investigator, to Mr. Walter F. Neid, USEPA, February 2, 1990.

Michigan Water Resources Commission (MWRC) 1970. Biological Evaluation of Torch Lake, Houghton Michigan, October 1970.

Michigan Technological University (MTU) 1984. Letter from David G. Leddy to Ms. Sue Haralson, Lake Linden Village Clerk, June 13, 1984.

Michigan Technological University (MTU) 1986. Torch Lake Study, A Project Completion Report, August 1986.

REFERENCES (Cont'd)

Rose, et al. 1986. Heavy metals and Mining Wastes of Torch Lake, Michigan, Michigan Technological University, Houghton, Michigan.

Tennessee Valley Authority (TVA) 1987. Letter from Dave Tomljanovich to Dr. Elwin Evans, MDNR, May 28, 1987.

U.S. Department of the Interior (USDI) 1990. Torch Lake Tailings Leachability Evaluation, U.S. Bureau of Mines, Status as of April 1990.

U.S. Department of the Interior (USDI) 1991a. Letter from Pamela Drake to Jae Lee, USEPA, July 5, 1991.

U.S. Department of the Interior (USDI) 1991b. Letter from Eric Zahl and Pamela Drake to Jae Lee, USEPA, November 21, 1991.

USEPA 1983. Phone memorandum from conversation between Anne C. Sause, USEPA , and Dr. Elwin Evans, MDNR, January 4, 1983.

USEPA 1991. Chronic Toxicity Study FY '91, Torch Lake, Organic Laboratory Section, August 15, 1991.

U.S. Fish and Wildlife Service (USFWS) 1990. Effects of High Copper Concentrations on Reproduction by Yellow Perch in Torch Lake, Michigan, Final Report, November, 1990.

Western Upper Peninsula District Health Department (WUPDHD) 1984. Letter from Kenneth E. Rowe, Medical Director, to Mr. Vernon Jolly, President of the Village of Lake Linden.

Leaders want EPA out of way

By PAUL PETERSON
Gazette writer

HOUGHTON — This area can't afford to be a Superfund site, said community and business representatives who came together for a special meeting Thursday.

The local contigent called for no action on the Environmental Protection Agency's $7.2 million proposed cleanup plan for the Torch Lake Superfund site and asked that the designation be removed. At the meeting were EPA and Michigan Department of Natural Resources representatives who were told that being a Superfund site could cost the area both in dollars and reputation.

The group — which includes representatives of Houghton, Hancock, Houghton County, Keweenaw County and Michigan Tech — presented a statement to EPA Remedial Project Manager Jae Lee at the meeting at Houghton City Centre. In it, local leaders asked EPA to take Torch Lake off its Superfund site list.

The statement — read by Hancock City Mayor Mary Tuisku — said that EPA studies have "reassured us that the mining residues do not present a significant health or environmental risk."

But it was also pointed out that the region does not warrant continued spending of Superfund monies or resources, which would be better put to use in other places that do present a real risk to public health.

"Further, placement of essentially our entire community on the National Priorities List brings with it a most unwelcome and undeserved notoriety," the statement said.

The statement also emphasized that lending institutions will not loan money on current, past, or potential hazardous waste sites and that people will not wish to move to an area designated as such.

It was noted that Superfund law requires EPA to recover the cost of the plan back from the community. The EPA recommends covering stamp sand and tailings with soil and vegetation.

Local leaders estimate that the plan could cost between $25 to $30 million, rather than the EPA's $7.2 million estimate.

The EPA considers the area harmful, but has said that either action or no action may be taken.

Houghton City Manager Ray Kestner said the city has been listed as one of the top ten small cities in the country to live in. He said that action by the EPA would effectively block several projects the city has going — including one on the Isle Royale Sands.

"We take our environment very seriously," Kestner said. "We see it (EPA action) as a real threat to what we're attempting to do."

Kestner also said that the city's water source on the Isle Royale Sands could be threatened if the EPA takes an action position. He said the sands project includes creating a series of canals, 43 one-acre lots, a DNR trail, jogging trails and a 3½ acre wetlands area.

"This is a true community effort," he said, adding that EPA action "would dry up any kind of financing" for the project.

Property owner Dan Lorenzetti said that the financial resources to remove the sands are not available.

"If the entire Isle Royale Sands is removed foot by foot, the city's plan is dead in the water," Lorenzetti said.

Houghton County Road Commission Engineer Jim Manderfield said that stamp sand from former mill areas is used on roads in the winter.

"We looked for the most economical way to sand roads and that was it," Manderfield said. "Not having it would definitely cause some problems."

Manderfield said the county currently has about 30 years of stamp sand left from its source and would have to seek other means at a higher cost if it was lost.

Houghton County Commissioner Gerald Perreault, D-Lake Linden, said that the county can't afford to get involved in litigation that may result in cost recovery lawsuits that usually follow superfund remediation.

"We just spent $380,000 dealing with a lawsuit that was frivolous," Perreault said. "Any lawsuits involving this situation would no doubt be more costly."

The Keweenaw National Historical Park project has been hung up in Congress because of the EPA's Torch Lake action. Rev. Robert Langseth, chairman of CLK Foresight, said his group will be in Washington next week to testify on behalf of the park project.

"We're very close to accomplishing our goal of a national park," Langseth told Lee. "Your decision will delay or stop it. We can't attract tourists if they have to drive through a Superfund site."

The DNR is supporting the EPA in the matter, according to Region 1 Deputy Director Frank Opolka.

"The DNR fully approves the EPA process," Opolka said, adding that the Torch Lake site doesn't fall under the the state's 307 site designation.

But Opolka said the state has worked in the past with Houghton County and will work with local government to try to reach a solution in the matter.

For his part, Lee said he will study the matter and continue getting local input. He said a decision on whether to keep Torch Lake from the Superfund list may come by the end of the August.

Keweenaw County Commissioner Barb Foley, like many of the local representatives present, noted that officials are united in their effort.

"We will work together to remove the stigma. This is being done to benefit the entire area," Foley said.

6-26-92

6/27/92

Township requesting that Torch Lake be removed from EPA's priorities list

By VICKY SLOAN
Gazette writer

CALUMET — The Calumet Township Board voted Friday afternoon to sign the Statement of Position regarding the Torch Lake Superfund Site, joining other local units of government in requesting the area be removed from the Environmental Protection Agency's National Priorities List.

The Statement of Position, already signed by the cities of Houghton and Hancock, Calumet Village, Houghton County, the Houghton County Road Commission, Portage Lake Water and Sewer Authority, CLK Foresight, and the National Park Committee, recommends the EPA's Alternative S1 (No Action) and goes on to explain why the superfund site designation is harmful to the community.

The four-page document outlines the effects of labeling the area hazardous, including lower property values and a negative impact on tourism. The statement also says that the proposed vegetation cap is "unnecessary and grossly excessive," and that it would "obliterate evidence of this region's mining history."

The cost of the project and who would pay for it were also listed as serious concerns. The vote to sign the document was unanimous.

On another matter, Dave Love of U.P. Engineering addressed the board about progress on the township's sewer project which is now 27 percent completed. Septic tanks at the Wolverine No. 4 site will be installed next week, according to Love. He also explained the required maintenance of the pump stations, and the board voted to request that the sewer authority maintain the system on a time and materials basis for one year.

Elmer Haltunen, township resident, asked the board to explain why his section of road did not get the dust control material which was spread last week. Supervisor Paul Lehto explained that no homes more than 500 feet off the dirt road received dust control, but Haltunen said road dust is a problem at his residence and that anyone who pays taxes should receive the benefit of dust control. Board members agreed to look into the situation.

In other business, the board:

- Learned that a suit against a township resident and the township on behalf of a woman who was knocked to the sidewalk by a dog was turned over to the township's insurance company.
- Agreed to donate $500 to members of the National Park Committee for a trip to Washington D.C. to testify in favor of the National Historic Park in Calumet.
- Approved the writing of a Recreation Trust Fund grant in order to purchase the 707 acres of ski trails in Swedetown.
- Approved the appointment of Tom Tikkanen to the vacancy on the board.
- Heard a request from Joseph Mihal, Calumet Village clerk, that the township repair the holes in the train depot roof, citing increased damage to the historic structure. The board agreed to look into the matter.

Operation Action U.P.

616 Shelden Ave. #214
Houghton, Michigan 49931
Telephone (906) 482-3210

Richard Dunnebacke
Executive Director

June 24, 1992

Mr. Jae Lee
Project Manager
Torch Lake Clean-up Site
USEPA, Region 5, PS-19J
77 W. Jackson Boulevard
Chicago, IL 60604

Dear Mr. Lee:

The proposed EPA remediation plan for Torch Lake sites (OU I & OU III) is unnecessary and unjustified.

Covering with topsoil and revegetating the large areas of inert mining tailings will be far more expensive than your estimates show. The experience of former mining companies and municipal units which have attempted in the past to revegetate portions of these stampsands clearly show that difficulties in placement, stabilization, and irrigation of the topsoil rapidly drives up costs and makes repeated coverings and seedings necesarry. Working with these crushed rock sands is an inexact agricultural science requiring much trial, error, and retrial. These uncertainties remain despite years of research and study by competent soil scientists at Michigan Technological University. They spell unknown, unpredictable and substantial cost escalations in EPA's proposed plan.

But most importantly, your EPA plan is not justified by the minimal risks involved. By your own previous admission there are no human health risks which are not tiny, normal and acceptable to EPA. Moreover, The risks to the environment, as brought out by your own studies, are small and not unlike natural erosion or leaching activities taking place all around us all the time.

In fact, placement of additional soils on the sands are likely to increase the risk to the environment.

1. Erosion at shorelines (which after these many years are basically stabilized and not a problem) will increase and contain new, unidentified fines and silt from the added topsoil.

2. Leaching of subsurface minerals will increase, not decrease, due to moisture retention and

long-term action caused by the organic, vegetative matt on the surface.

Therefore, neither for human health reasons nor for environmental protection is the proposed EPA remediation plan justifiable, and under expected conditions will make the situation worse. It is unconscionable that a public agency persist in promoting a plan which is patently preposterous.

In the end, there is no justifiable reason for continuing to call Torch Lake a Superfund site, and there probably never was cause to identify it as such in the first place. The stigma placed on this community is a serious degradation of its social and economic well-being. Who, for example, would dare to invest or lend funds where supposedly potential environmental liabilities are entombed?

As an organization having more than 30 years experience with industrial and economic development in the Upper Peninsula, Operation Action U.P. urges EPA to quickly remove this undeserved stigma which is a serious brake on the Copper Country's future advancement.

Do not plunge this struggling area into decades of acrimonious legal battles over who is responsible and who should pay when none today had anything to do with original mining or milling; do not unjustifiably expend large sums of taxpayer superfund monies to attempt burying a non-problem; do not persist in implementing a plan which needlessly perpetuates a public stigma for future generations; in short, do not take <u>any</u> action on the Torch Lake sites.

Sincerely,

Richard Dunnebacke

RD/sjy

STATEMENT OF POSITION REGARDING THE TORCH LAKE SUPERFUND SITE

We are appreciative of the EPA's efforts in investigating and evaluating the potential health and environmental effects of copper mining residues in our community. That considerable body of work has benefitted the community in two important respects: caused the removal of drums which were buried in Torch Lake, and, perhaps, more importantly, it has reassured us that the mining residues do not present a significant health or environmental risk. Quoting page 11 of your May proposed plan, "Because the human health risk for OU I and OU III are generally within U.S. EPA's acceptable range, Alternative T1 and Alternative S1 (No Action) are feasible alternatives. The remaining Alternatives (T2, S2, S3, and S4) would meet all applicable health and environmental regulations." For this we are grateful and we thank the EPA.

Given the above, the community does not believe that it should continue to be treated, en masse, as a superfund site. To continue to do so is not an appropriate or necessary use of superfund monies or resources, which are greatly needed at other locations which present a real risk to public health and the environment. Further, placement of essentially our entire community on the National Priorities List brings with it a most unwelcome and undeserved notoriety. This label will have an unquestionably negative effect upon property values. People will not wish to move to an area designated as a hazardous waste dump site to build homes and raise their families. Prudent lending institutions will not loan money on current, past, or potential hazardous waste sites and are reluctant to accept mortgages on adjacent properties. The many tourists upon which our economy so heavily depends will not wish to vacation at a place where they have

wonder if the beaches and waters are hazardous. This may even affect the visitors to the proposed Keweenaw National Historic Park. Students wishing to attend the local university and college will think twice before spending four or more years in the environs of a superfund site. Finally, as the economic growth and value of this area declines, the occurrence of wasteful litigation is likely to increase. Property owners and businesses will become embroiled in th cost recovery lawsuits which inevitably follow superfund remediation, and the area may become a fertile spawning ground for civil personal injury suits.

Application of this label to the community adds insult to the injury which is caused by the proposed remedy. We feel that the engineering of an enormous soil and vegetation "cap" over a large part of our community is unnecessary and grossly excessive. If its stated purpose is the reduction of blowing and airborne dust, the ripping up of existing vegetation and the driving of heavy machinery over those areas would seem to be completely at odds with that purpose. Once this cap is in place, it will present significant restrictions of the sale and development of that property by ordinary residents as well as the business community. Pursuant to Michigan's Environmental Response Act (Act 307), deed restrictions may be imposed upon any land so treated.

The activities suggested in Operable Unit II, which essentially involves the digging-up of large portions of our lakes, will have devastating consequences on the lakes themselves as well as upon fishing.

These activities are designed to obliterate evidence of this region's mining history. The community has a legitimate interest in

historic preservation, which is not outweighed by standards of beauty rather than health. We believe that our unique history is an asset, not an eyesore.

Finally, very little has been said with regard to how the $7.2 million cost for all of this activity will be paid. It is important to understand that the superfund law requires EPA to recover this cost back from the community. Under that law, the liable parties are the owners of the contaminated property as well as those responsible for the generation and deposit of hazardous materials. Even if EPA chooses not to sue someone, those parties from which EPA does extract payment have a right to do so.

Simply put, we do not feel the EPA's estimate of $7.2 million is realistic for the actual scope of work proposed and may be totally inadequate. No additional local governmental unit costs have been included. Preliminary engineering estimates indicate that an increase in local property taxes will be required to support related costs of $17 million. These costs along with cost over-runs may push the actual overall Superfund Site costs to $25 to $30 million. It is the community's position that a "no action" record of decision is entirely warranted in this matter, given the ongoing community programs, all of which have remedial effect, and the overriding national interest in preserving these unique evidences of the historic mining industry for posterity.

For instance, the Portage Lake Water and Sewage Authority has been engaged in a sludge-spreading project for some 20 years, which has already resulted in the re-vegetation of many acres of stampsands. Re-vegetation will continue. It is being resolved as a local problem with a local solution. The City of Houghton is planning to develop a

large portion of the Isle Royale sands into a residential community and series of canals, which will result in those areas becoming covered by vegetation, buildings, and streets. The City of Hancock has a waterfront plan which calls for extensive residential, commercial, and recreational development. A local committee is well on its way towards turning sections of old mining ruins into a national park and tourist attraction. We are supportive of these uses, and it is our desire to work with EPA to find other such productive and creative solutions for those limited areas where blowing sand is a concern, as opposed to the extremely expensive and potentially counter-productive "capping" approach.

It is the community's goal to be taken off the National Priorities List. We believe that the results of the EPA's own studies demonstrate that this characterization of our community is inappropriate overkill. To the extent that limited and discrete environmental problems exist, we would prefer to see these treated on a state and local level.

We support the preceding course of action for the Torch Lake SuperFund Site.

Mary J. Tuisku Mayor City of Hancock

Susan C. Cox Comptroller Village of Calumet

[illegible] City Manager Houghton

James B. Mansfield County Highway Eng Houghton C

[illegible] Pres S.B.C.

C. Robert Ballard Chairperson Portage Lake Water & Sewage Authority

[illegible] III PRESIDENT CLK FORESIGHT, INC.

Gerald A. Tercant County Commissioner Houghton County (& resident of Lake Linden)

Rev. Robert V. Langseth chairman Nat'l Park Committee

BOARD OF

County Road Commissioners

HOUGHTON COUNTY

P. O. BOX 289
HANCOCK, MICHIGAN 49930
1-906-482-3500

May 15, 1992

Mr. Philip Schutte
Community Relations Coordinator
Office of Public Affairs (PS-19J)
U.S. EPA, Region 5
77 West Jackson Blvd.
Chicago, Illinois 60604

Re: Public comments Torch Lake Superfund Site, Houghton County, Michigan

Dear Mr. Schutte:

This letter is to state that the Houghton County Board of Road Commissioners goes on record strongly opposing the plan to eliminate the availability of stamp sand as a public resource used extensively as a winter road abrasive and road building construction commodity in Houghton County, Michigan.

This administrative board has been very sensitive to environmental issues and can find no plausible reason why stamp sand deposits in the Keweenaw Peninsula should be covered over and made useless when there has been absolutely no proof that these materials are harmful to humans or the environment of our pristine area.

Our agency uses appropriate deposits of stamp sand very extensively for road abrasives for five months of the year when our roads (and stamp sand deposits) are covered with up to 30 feet of snow each winter.

This man-made resource, by coincidence, falls within a desirable range of specifications found nowhere in natural occurrence.

The material which we use contains almost no very fine material (0-3%) which allows it to be used without adding large amounts of environmentally harmful chlorides to the material itself while it is in storage to prevent it from freezing in piles.

The material, in it's present state, contains no particle sizes over 3/8". On rural, high speed highways, if abrasives containing over 3/8" diameter are used, extensive windshield breakage occurs.

In addition, the particles of stamp sand are 100 percent fractured and are unequalled in their ability to stick to slippery roads in below 0°F temperatures experienced in Houghton County.

Stamp sand cannot be equalled economically for commercial use in our area.

Substitute, and much inferior, rounded particle, natural sands can be washed and graded to closely compare with these stamp sands, however, much greater amounts of this material would have to be used in order to equal the performance of this man-made resource, thus further depleting another natural resource at a faster rate.

Stamp sand is also used extensively for subbase on our roadways and it's superior qualities as described above, also allow less quantities to be used to achieve equal results against natural resource sands.

In our area where a high percentage of native clay soils are present, this valuable road building material is unequalled for strength where 6' to 10' deep frost occurs and weakens roads for 50 to 70 days each spring when all economic trucking for timber products, farm commodities and general commerce must be halted each year.

When all of the factors are taken into consideration, the elimination of these resources for use on and in roadways alone have been calculated to cost 15 to 20 million dollars over the next 30 years, in an area which is already economically depressed.

The importance of stamp sand is most certainly going to increase as the eventual reduction or elimination of environmentally questionable chlorides occurs in the future.

The Houghton County Road Commission has purchased a source of stamp sand for future use (OU III, site 10) of some 50 acres and intends to manage that site responsibly, by removing only amounts that are excessive, without disturbing the Portage Waterway, and eventually covering up the remaining material with heavy, vegitation supporting soils.

Our site, and others, are being presently managed and considered for development resulting in the slow elimination of exposure to the environment, as economic conditions will allow, even if the EPA doesn't intercede.

The Houghton County Board of Road Commissioners, again, goes on record, strongly opposing EPA action to cover over and eliminate the use of stamp sand for the great benefits of Houghton County taxpayers, for no apparent justifiable reason.

Very truly yours,

BOARD OF COUNTY ROAD COMMISSIONERS

James B. Manderfield, P.E.
County Highway Engineer

JBM/pp

FOR THE BOARD:

PETER J. FAUSONE, CHAIRMAN
ROBERT R. RAISANEN, VICE CHAIRMAN
GABRIEL J. MASINI, MEMBER